

Claim Amendments

1 (original): A method of treating a mammal that does not have severe combined immune deficiency but is deficient in CD4⁺ lymphocytes, the method comprising inoculating the mammal with an attenuated mycobacterium in the *Mycobacterium tuberculosis* (*M. tuberculosis*) complex, the mycobacterium comprising two deletions, wherein a virulent mycobacterium in the *M. tuberculosis* complex having either deletion exhibits attenuated virulence.

2-4 (canceled)

5. The method of claim 1, wherein the attenuated mycobacterium is an *M. tuberculosis*.

6-7 (canceled)

8. The method of claim 1, wherein the attenuated mycobacterium is an *M. bovis*.

9 (canceled)

10. The method of claim 1, wherein the mammal is a human.

11 (canceled)

12. The method of claim 1, wherein at least one of the two deletions is a deletion of a region selected from the group consisting of an *RD1* region, a region controlling production of a vitamin, and a region controlling production of an amino acid.

13. The method of claim 12, wherein the deletion is of the *RD1* region.

14-15 (canceled)

16. The method of claim 12, wherein the deletion is of a region controlling production of a vitamin.

17. The method of claim 16, wherein the vitamin is pantothenic acid or nicotinamide adenine dinucleotide (NAD).

18. The method of claim 17, wherein the vitamin is pantothenic acid.

19. The method of claim 18, wherein the deletion is a Δ *panCD* deletion.

20-21 (canceled)

22. The method of claim 12, wherein the deletion is in a region controlling production of an amino acid.

23. The method of claim 22, wherein the amino acid is selected from the group consisting of proline, tryptophan, leucine or lysine.

24. The method of claim 22, wherein the amino acid is lysine.

25. The method of claim 24, wherein the deletion is a Δ lysA deletion.

26-27 (canceled)

28. The method of claim 12, wherein one deletion is of an RD1 region and the other deletion is of a region that controls production of a vitamin.

29 (canceled)

30. The method of claim 12, wherein one deletion is of an RD1 region and the other deletion is of a region that controls production of an amino acid.

31 (canceled)

32. The method of claim 12, wherein one deletion is of a region that controls production of a vitamin and the other deletion is of a region that controls production of an amino acid.

33-37 (canceled)

38. The method of claim 1, wherein the attenuated mycobacterium further comprises a foreign DNA stably integrated into genomic DNA of the mycobacterium.

39. The method of claim 38, wherein the foreign DNA encodes at least one protein or polypeptide selected from the group consisting of an antigen, an enzyme, a lymphokine, an immunopotentiator, and a reporter molecule.

40 (canceled)

41. A method of treating a mammal that does not have severe combined immune deficiency but is deficient in CD8⁺ lymphocytes, the method comprising inoculating the mammal with an attenuated mycobacterium in the *Mycobacterium tuberculosis* (*M. tuberculosis*) complex, the mycobacterium comprising two deletions, wherein a virulent mycobacterium in the *M. tuberculosis* complex having either deletion exhibits attenuated virulence.

42-86 (canceled)